

PATENT APPLICATION
Do. No. 9898-204

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jae-Yoon SIM and Jei-Hwan YOO

Serial No. 09/901,930

Examiner: Cunningham, Terry D

Filed: July 9, 2001

Group Art Unit: 2816

For: NEGATIVE VOLTAGE GENERATOR FOR A SEMICONDUCTOR
MEMORY DEVICE

BOX NON FEE AMENDMENT
Assistant Commissioner for Patents
Washington, D.C. 20231

#7
Response

Ext. 1 meo

Jmc miller
1/15/03

RESPONSE TO OFFICE ACTION

This communication is responsive to the Office Action, dated August 12, 2002.

REMARKS

Claim Rejections - 35 USC § 102

Claims 1, 7, 12 and 13 are rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 4,961,007 to Kumanoya et al. ("Kumanoya"). Applicant traverses this rejection.

Claim 1 recites that the second charge pump is adapted to be controlled by a precharge signal. The Examiner alleges that the RAS signal shown in Fig. 4 of Kumanoya corresponds to the precharge signal recited in claim 1. Applicant disagrees with this interpretation.

Kumanoya's RAS signal is used to initiate an access operation for a selected memory cell (col. 4, lines 1-5). In contrast, Applicant's precharge signal is used to return a word line to a negative voltage (back biased) state after an access operation is completed, thereby reducing leakage current in non-selected memory cells. (See page 1, lines 14-18 of the specification.) Therefore, Kumanoya does not anticipate claim 1. Likewise, claims 7, 12, and 13 include a precharge signal which is not anticipated by Kumanoya.

Claim Rejections - 35 USC § 103

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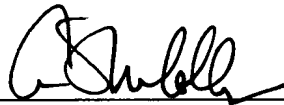
Claims 1-24 are rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,052,022 to Lee ("Lee") in view of U.S. Patent No. 5,600,551 to Luscher, Jr. ("Luscher"). Applicant traverses this rejection.

Claims 1-24 all recite some type of precharge signal. The rejection of claims 1-24 under 35 USC 103(a) is based on an incorrect interpretation of a RAS signal as a precharge signal. The Examiner alleges that the RAS signal shown in Fig. 1 of Lee (in this case a complementary RAS signal RASB) corresponds to Applicant's precharge signals. As discussed above, however, a RAS signal is used to initiate an access operation, i.e., operation in active mode (col. 1, lines 51-55), rather than a precharge operation. Therefore, the factual basis for the rejection under Section 103(a) is incorrect, and a *prima facie* case of obviousness has not been established.

Applicant requests reconsideration in view of the foregoing amendments and remarks. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Alan T. McCollom
Reg. No. 28,881

MARGER JOHNSON & McCOLLOM
1030 SW Morrison Street
Portland, OR 97205
(503) 222-3613

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